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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/666,722	09/20/2000	Yoshiaki Tanaka	0102/0138	6231

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EXAMINER

SELLERS, DANIEL R

ART UNIT PAPER NUMBER

2644

DATE MAILED: 06/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/666,722

Applicant(s)

TANAKA ET AL.

Examiner

Daniel R. Sellers

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see page 7, section I, filed February 11, 2005, with respect to claim 13 have been fully considered and are persuasive. The objection of claim 13 has been withdrawn.
2. Applicant's arguments, with respect to the 35 USC 102(e) and 103(a) rejections, have been fully considered but they are not persuasive.
3. Regarding claim 1 and the Heo reference, see column 12, lines 23-36. Heo teaches an audio pack composed of audio packets, and it is inherent that a converter is implemented in converting a stream into the individual packets. Furthermore Heo teaches that each packet has an area for packet headers, frame information, audio data information, and audio data among other pieces of information. It is understood that any one of these pieces of information is real data, insofar as to convey information that has meaning.

Heo also inherently teaches the audio channel information. Heo teaches a method, wherein a plurality of different channel and sampling formats can be encoded and decoded (Col. 16, lines 20-27 and Figs. 5A and 14). Heo also teaches that the system conforms to the MPEG2 standard, wherein it is inherent that the system is able to discern which data belongs to which channel (Tables 11 and 20).

4. Regarding claims 2, 5, 6, 15, 16 and the Heo reference, see the preceding argument with respect to claim 1. For the same reasons the rejection of claims 2, 5, 6, 15 and 16 are maintained.

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5. Regarding claim 9 and the Heo reference, see Heo column 2, lines 24-27 and tables 1a-2b. See also column 20, lines 39-42 and column 21, lines 34-53. Heo teaches that a DVD has a VTSI_MAT for reproducing audio and video data, the System Controller (111) reads this data, and the System Controller (111) may require the audio data to be down-mixed, resampled, requantized, or decoded. Heo teaches that the given area is the VTSI_MAT area and information, with the claimed features, is contained within.

6. Regarding claim 11 and the Heo reference, see the preceding argument with respect to claim 9. Heo teaches these features.

7. Regarding claims 3, 4, 7, 8, 10, 12-14, 17, 18, and 20 and the combination of Heo and Horiguchi, see the preceding argument with respect to claim 1 and the Heo reference. Heo teaches these features. Therefore the combination of Heo and Horiguchi teach the features of claims 3, 4, 7, 8, 10, 12-14, 17, 18, and 20.

8. Regarding claim 19, 21 and the combination of Heo, Horiguchi, and Maeda, see the preceding argument with respect to claim 1. The combination of Heo, Horiguchi, and Maeda teach the features of claims 19 and 21.

9. Regarding the amendment to claims 5-8 “compression process on the audio data....”, see Heo column 18, line 47 – column 20, line 1. Heo teaches compressed audio data in the audio packet in the audio pack.

10. The rejections of the prior office action are presented below, and with reference to the above arguments, Heo, the combination of Heo and Horiguchi, and the

combination of Heo, Horiguchi, and Maeda teach the features of the claimed subject matter.

Claim Rejections - 35 USC § 102

11. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
12. Claims 1, 2, 5, 6, 9, 11, 15, and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Heo et al. (Heo), U.S. Patent No. 5,987,417.
13. Regarding claim 1, see Heo column 12, lines 23-31. Heo teaches a signal processing apparatus that decodes information stored on a DVD with these features.
14. Regarding claim 2, see Heo column 20, lines 62-65 and Fig. 16 and 17. Heo teaches a decoding device with the means for receiving channel information and decoding of channel information.
15. Regarding claim 5, see Heo column 19, lines 63-66. Heo teaches a decoding device that can decode a MPEG2 compressed data stream.
16. Regarding claim 6, see Heo column 12, lines 15-17 and lines 37-43. Heo teaches a device that reproducing audio data from a DVD containing compressed information.
17. Regarding claim 9, see Heo column 20, lines 39-42 and column 21, lines 34-43. Heo teaches a device that decodes a stream containing audio packs and a stream that has a down sampling flag, a down mix flag, and a dequantization flag placed in a given area.

18. Regarding claim 11, see Heo column 21, lines 34-43. Heo teaches these features.

19. Regarding claim 15, see the above rejection of claim 5, Heo teaches the use of compressed and uncompressed data in the stream. A compression method is a method of encoding.

20. Regarding claim 16, see the above rejection of claims 6 and 15. Heo teaches these features.

Claim Rejections - 35 USC § 103

21. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

22. Claims 3, 4, 7, 8, 10, 12-14, 17, 18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heo and Horiguchi et al. (Horiguchi), U.S. Patent No. 6,137,949.

23. Regarding claim 3, see Horiguchi column 1, lines 24-26. Horiguchi teaches that a serial interface, the IEEE-1394 interface, can be used to transmit digital audio/video signals between digital devices. Horiguchi does not teach the method of converting a stream or enabling channel information. Heo teaches the decoding of a DVD audio disk, which decodes a stream of information with channel information adjacent to the audio content. Heo does not teach transmission of information over a serial interconnect. It would have been obvious for one of ordinary skill in the art to combine the teachings of Horiguchi and Heo for the faster transmission of signals.

24. Regarding claim 4, see the above rejection of claim 3. The above combination of Horiguchi and Heo teach the transmission of packets from a transmission side to a reception side via a IEEE-1394 interface.

25. Regarding claim 7, see the above rejections of claims 3 and 5. Heo teaches the features of converting a data stream and the enabling of compression information to be placed in a given area. Horiguchi teaches the transmission of packets via a serial interface.

26. Regarding claim 8, see the above rejections of claims 4 and 7. The combination of Heo and Horiguchi teach these features.

27. Regarding claim 10, the further limitation of claim 9, see Horiguchi column 2, lines 18-25. Horiguchi teaches the method of decoding via a MPEG decoder before transmission of a signal. Horiguchi does not teach the means for down-sampling or dequantizing, however Heo teaches the method of decoding a digital stream according to a down-sampling or dequantizing flag included within the data stream. Horiguchi's teachings, in light of Heo's teachings, would render it obvious to one skilled in the art to have invented a device that would down-sample or dequantize the stream before transmission.

28. Regarding claim 12, see the above rejections of claims 3 and 11. The combination of Heo and Horiguchi teach these features.

29. Regarding claim 13, the further limitation of claim 12, see the rejections of claims 10 and 12. The combination of Heo and Horiguchi teach these features.

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30. Regarding claim 14, see the above rejections of claims 4 and 12. The combination of Heo and Horiguchi teach these features.

31. Regarding claim 17, see the above rejections of claims 3 and 15, the combination of Heo and Horiguchi teach the transmission of packets via a serial interface. They also teach that the encoding information is placed in a given area.

32. Regarding claim 18, see the above rejections of claims 4 and 17, the combination of Heo and Horiguchi teach these features in the transmission of packets.

33. Regarding claim 20, the further limitation of claim 14, see Heo column 21, lines 34-39. Heo teaches that the audio stream has a flag requiring the sampling frequency to be halved.

34. Claim 19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Heo and Horiguchi as applied to claims 8 and 18 above, and further in view of Maeda et al. (Maeda), U.S. Patent No. 6,072,759.

35. Regarding claim 19, the further limitation of claim 18, see Maeda column 4, lines 53-63. Maeda teaches the DSD encoding based on the DVD format. A table of contents (TOC) identifies the inclusion of DSD data on the disc. Maeda does not teach the transmission of data as claimed in the parent claim 18. The combination of Heo and Horiguchi teaches the features as claimed in the parent claim. However the combination does not teach the encoding process as a 1-bit DSD process. It would have been obvious for one of ordinary skill in the art to combine the teachings of Maeda

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with the combination of Heo and Horiguchi for the purpose of superior sound quality in audio data.

36. Regarding claim 21, the further limitation of claim 8, see the above rejection of claims 8 and 19. The combination of Maeda, Heo, and Horiguchi teach the above features.

Conclusion

37. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel R. Sellers whose telephone number is 571-272-7528. The examiner can normally be reached on Monday to Friday, 9am to 5:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SINH TRAN
SUPERVISORY PATENT EXAMINER

DRS